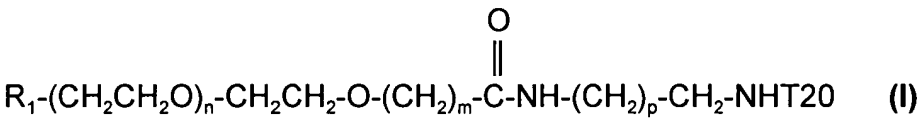
What is claimed:

1. A compound of formula (I):



$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}C(=O)\text{-}NH\text{-}(CH_2)_p\text{-}CH_2\text{-}NHT20 \quad \textbf{(I)}$$

wherein

R_1 is a capping group,

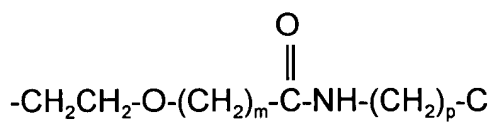
m is from 1 to 17,

n is from 10 to 1,000,

p is from 1 to 3, and

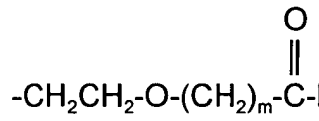
NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

2. A compound according to claim 1, wherein R_1 is selected from the group consisting of halogen, epoxide, maleimide, orthopyridyl disulfide, tosylate, isocyanate, hydrazine hydrate, cyanuric halide, N-succinimidyloxy, sulfo-N-succinimidyloxy, 1-benzotriazolyloxy, 1-imidazolyloxy, p-nitrophenyloxy, and



$$\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}C(=O)\text{-}NH\text{-}(CH_2)_p\text{-}CHO.$$

3. A compound according to claim 1, wherein R_1 is



$$-CH_2CH_2-O-(CH_2)_m-\overset{\overset{O}{\|}}{C}-NH-(CH_2)_p-CHO.$$

4. A compound according to claim 1, wherein R_1 is selected from the group consisting of hydrogen, hydroxy, lower alkyl, lower alkoxy, lower cycloalkyl, lower alkenyl, aryl, and heteroaryl.

5. A compound according to claim 1, wherein R_1 is selected from the group consisting of methoxy, hydroxy, and benzyloxy.

6. A compound according to claim 5, wherein R_1 is methoxy.

7. A compound according to claim 1, wherein p is 3.

8. A compound according to claim 7, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

9. A compound according to claim 7, wherein m is from 1 to 14.

10. A compound according to claim 9, wherein m is from 1 to 7.

11. A compound according to claim 10, wherein m is from 1 to 4.

12. A compound according to claim 7, wherein n is from 20 to 1,000.

13. A compound according to claim 12, wherein n is from 50 to 1,000.

14. A compound according to claim 13, wherein n is from 75 to 1,000.

15. A compound according to claim 1, wherein p is 3, R_1 is methoxy, m is 1, and n is from 100 to 750.

16. A compound according to claim 1, wherein p is 2.

17. A compound according to claim 16, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

18. A compound according to claim 16, wherein m is from 1 to 14.

19. A compound according to claim 18, wherein m is from 1 to 7.

20. A compound according to claim 19, wherein m is from 1 to 4.

21. A compound according to claim 16, wherein n is from 20 to 1,000.

22. A compound according to claim 21, wherein n is from 50 to 1,000.

23. A compound according to claim 22, wherein n is from 75 to 1,000.

24. A compound according to claim 1, wherein p is 2, R_1 is methoxy, m is 1, and n is from 100 to 750.

25. A compound according to claim 1, wherein p is 1.

26. A compound according to claim 25, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

27. A compound according to claim 25, wherein m is from 1 to 14.

28. A compound according to claim 27, wherein m is from 1 to 7.

29. A compound according to claim 28, wherein m is from 1 to 4.

30. A compound according to claim 25, wherein n is from 20 to 1,000.

31. A compound according to claim 30, wherein n is from 50 to 1,000.

32. A compound according to claim 31, wherein n is from 75 to 1,000.

33. A compound according to claim 1, wherein p is 1, R_1 is methoxy, m is 1, and n is from 100 to 750.

34. A compound of formula:

$$CH_3\text{-}O\text{-}(CH_2\text{-}CH_2\text{-}O)_n\text{-}CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}NHT20 \quad \textbf{(III)}$$

wherein n is from 10 to 1,000 and NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

35. A compound according to claim 34, wherein n is approximately 225.

36. A pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:

$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}\overset{\overset{O}{\|}}{C}\text{-}NH\text{-}(CH_2)_p\text{-}CH_2\text{-}NHT20 \quad \textbf{(I)}$$

wherein

R_1 is a capping group,

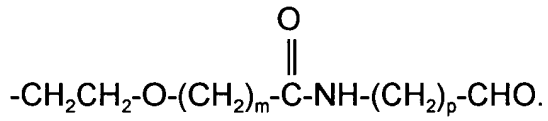
m is from 1 to 17,

n is from 10 to 1,000,

p is from 1 to 3, and

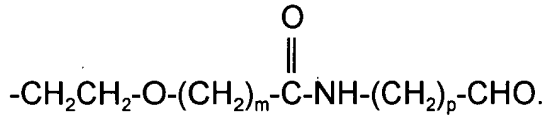
NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

37. A pharmaceutical composition according to claim 36, wherein R_1 is selected from the group consisting of halogen, epoxide, maleimide, orthopyridyl disulfide, tosylate, isocyanate, hydrazine hydrate, cyanuric halide, N-succinimidyloxy, sulfo-N-succinimidyloxy, 1-benzotriazolyloxy, 1-imidazolyloxy, p-nitrophenyloxy, and



$$-CH_2CH_2-O-(CH_2)_m-\overset{\overset{O}{\|}}{C}-NH-(CH_2)_p-CHO.$$

38. A pharmaceutical composition according to claim 36, wherein R_1 is



$$-CH_2CH_2-O-(CH_2)_m-\overset{\overset{O}{\|}}{C}-NH-(CH_2)_p-CHO.$$

39. A pharmaceutical composition according to claim 36, wherein R_1 is selected from the group consisting of hydrogen, hydroxy, lower alkyl, lower alkoxy, lower cycloalkyl, lower alkenyl, aryl, and heteroaryl.

40. A pharmaceutical composition according to claim 36, wherein R_1 is selected from the group consisting of methoxy, hydroxy, and benzyloxy.

41. A pharmaceutical composition according to claim 36, wherein R_1 is methoxy.

42. A pharmaceutical composition according to claim 36, wherein p is 3.

43. A pharmaceutical composition according to claim 42, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

44. A pharmaceutical composition according to claim 43, wherein m is from 1 to 14.

45. A pharmaceutical composition according to claim 44, wherein m is from 1 to 7.

46. A pharmaceutical composition according to claim 45, wherein m is from 1 to 4.

47. A pharmaceutical composition according to claim 42, wherein n is from 20 to 1,000.

48. A pharmaceutical composition according to claim 47, wherein n is from 50 to 1,000.

49. A pharmaceutical composition according to claim 48, wherein n is from 75 to 1,000.

50. A pharmaceutical composition according to claim 36, wherein p is 3, R_1 is methoxy, m is 1, and n is from 100 to 750.

51. A pharmaceutical composition according to claim 36, wherein p is 2.

52. A pharmaceutical composition according to claim 51, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

53. A pharmaceutical composition according to claim 51, wherein m is from 1 to 14.

54. A pharmaceutical composition according to claim 53, wherein m is from 1 to 7.

55. A pharmaceutical composition according to claim 54, wherein m is from 1 to 4.

56. A pharmaceutical composition according to claim 51, wherein n is from 20 to 1,000.

57. A pharmaceutical composition according to claim 56, wherein n is from 50 to 1,000.

58. A pharmaceutical composition according to claim 57, wherein n is from 75 to 1,000.

59. A pharmaceutical composition according to claim 36, wherein p is 2, R_1 is methoxy, m is 1, and n is from 100 to 750.

60. A pharmaceutical composition according to claim 36, wherein p is 1.

61. A pharmaceutical composition according to claim 60, wherein R_1 is selected from the group consisting of methoxy, hydroxy, or benzyloxy.

62. A pharmaceutical composition according to claim 60, wherein m is from 1 to 14.

63. A pharmaceutical composition according to claim 62, wherein m is from 1 to 7.

64. A pharmaceutical composition according to claim 63, wherein m is from 1 to 4.

65. A pharmaceutical composition according to claim 60, wherein n is from 20 to 1,000.

66. A pharmaceutical composition according to claim 65, wherein n is from 50 to 1,000.

67. A pharmaceutical composition according to claim 66, wherein n is from 75 to 1,000.

68. A pharmaceutical composition according to claim 36, wherein p is 1, R_1 is methoxy, m is 1, and n is from 100 to 750.

69. A pharmaceutical composition according to claim 36 in the form of a lypholized powder.

70. A pharmaceutical composition according to claim 36 in the form of an injectable solution or suspension.

71. A pharmaceutical composition according to claim 50 in the form of a lypholized powder.

72. A pharmaceutical composition according to claim 50 in the form of an injectable solution or suspension.

73. A pharmaceutical composition according to claim 36 in unit dosage form.

74. A pharmaceutical composition according to claim 73, wherein the unit dosage form is an injectable solution or suspension.

75. A pharmaceutical composition according to claim 73, wherein the unit dosage form is a transdermal delivery device.

76. A pharmaceutical composition according to claim 50 in unit dosage form.

77. A pharmaceutical composition according to claim 76, wherein the unit dosage form is an injectable solution or suspension.

78. A pharmaceutical composition according to claim 76, wherein the unit dosage form is a transdermal delivery device.

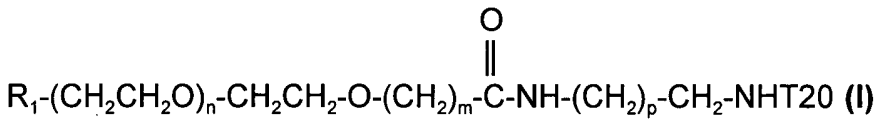
79. A pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:

$$CH_3\text{-}O\text{-}(CH_2\text{-}CH_2\text{-}O)_n\text{-}CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}NHT20 \quad \textbf{(III)}$$

wherein n is from 10 to 1,000 and NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

80. A pharmaceutical composition according to claim 79, wherein n is approximately 225.

81. A method of inhibiting HIV infection comprising administering a pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:



$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}C(=O)\text{-}NH\text{-}(CH_2)_p\text{-}CH_2\text{-}NHT20 \quad \textbf{(I)}$$

wherein

R_1 is a capping group,

m is from 1 to 17,

n is from 10 to 1,000,

p is from 1 to 3, and

NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

82. A method according to claim 81, wherein the pharmaceutical composition is administered in an amount of from about 50 mg to about 200 mg per day.

83. A method according to claim 81, wherein the pharmaceutical composition is administered in an amount of from about 300 mg to about 1500 mg per week in a single dose.

84. A method according to claim 83, wherein the pharmaceutical composition is administered in an amount of from about 400 mg to about 1000 mg per week in a single dose.

85. A method according to claim 84, wherein the pharmaceutical composition is administered in an amount of from about 500 mg to about 800 mg per week in a single dose.

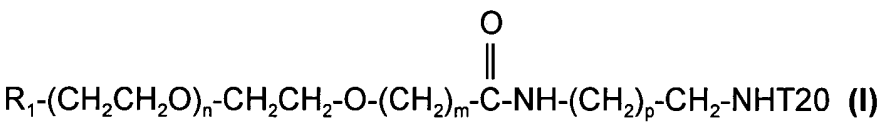
86. A method of inhibiting HIV infection comprising administering a pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:

$$CH_3\text{-}O\text{-}(CH_2\text{-}CH_2\text{-}O)_n\text{-}CH_2\text{-}CH_2\text{-}O\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}NHT20 \quad \textbf{(III)}$$

wherein n is from 10 to 1,000 and NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

87. A method according to claim 86, wherein n is approximately 130.

88. A compound of formula:



(I)

wherein

R_1 is methoxy,

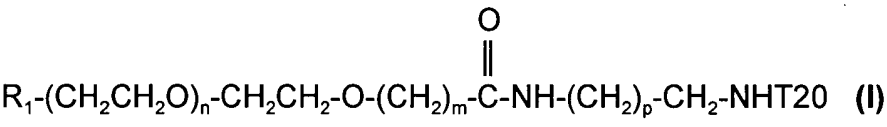
m is 1,

n is from 100 to 750,

p is 3, and

NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

89. A pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:



(I)

wherein

R_1 is methoxy,

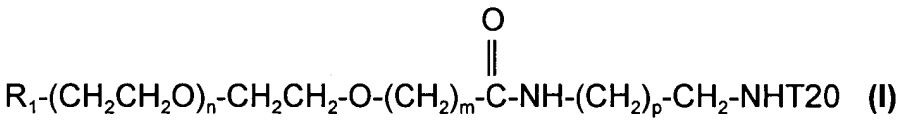
m is 1,

n is from 100 to 750,

p is 3, and

NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

90. A method of inhibiting HIV infection comprising administering a pharmaceutical composition comprising, in admixture with a pharmaceutically acceptable excipient, a compound of formula:



$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}C(=O)\text{-}NH\text{-}(CH_2)_p\text{-}CH_2\text{-}NHT20 \quad \textbf{(I)}$$

wherein

R_1 is methoxy,

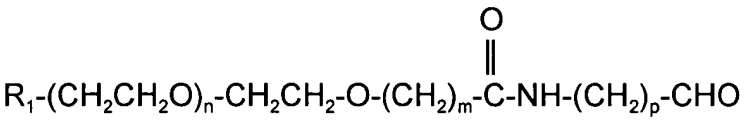
m is 1,

n is from 100 to 750,

p is 3, and

NHT20 is a T20 polypeptide covalently bonded through its terminal α-amino group.

91. A method for attaching a polyethylene glycol molecule to a T20 polypeptide comprising reacting a T20 polypeptide with a polyethylene glycol aldehyde of formula:



$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}C(=O)\text{-}NH\text{-}(CH_2)_p\text{-}CHO$$

wherein

R_1 is a capping group,

m is from 1 to 17,

n is from 10 to 1,000, and

p is from 1 to 3;

to produce a compound of formula:

$$R_1\text{-}(CH_2CH_2O)_n\text{-}CH_2CH_2\text{-}O\text{-}(CH_2)_m\text{-}CO\text{-}NH\text{-}(CH_2)_p\text{-}CH_2\text{-}NHT20 \quad \textbf{(I)}$$

wherein the polyethylene glycol aldehyde molecule is bonded to the N-terminal amino group of the T20 polypeptide.

92. A method according to claim 91 wherein the T20 polypeptide is reacted with the polyethylene glycol molecule at a pH sufficiently acidic to selectively activate the α–amino group at the amino terminus of the polypeptide.

93. A method according to claim 91 wherein the pH is from about 5.5 to about 7.4.

94. A method according to claim 93 wherein the pH is about 6.5.

95. A method according to claim 91 further comprising isolating the pegylated T20 polypeptide.